**Exercise 38 Study/Data Set Description**

Fifty-sex college students who were enrolled in a large state university took a pretest in their introductory statistics class. The students had a variety of majors such as social work, nursing, criminal justice, education, and counseling. The majority were undergraduates and more than 80% were female.

The pretest consisted of 14 items such as:

1. We obtain a product when we perform which mathematical operation
   1. Addition b. subtraction c. multiplication d. division e. not given
2. -9/3 equals
   1. 3 b. 6 c. -3 d. -6 e. not given
3. If 150 – X = 100, what does X stand for?
   1. 251 b. 151 c. 49 d. 149 e. not given

Each student answered all 14 items twice-once in multiple-choice form and once in open-ended form (without choices). A random half took the multiple-choice form first while the rest took the open-ended form first.

To measure attitudes toward math, students also answered these two questions:

Which choice best describes your attitude toward math?

1. Very positive b. somewhat positive c. neutral d. somewhat negative e. very negative

How did you feel when you first learned htat statistics was a required class in your major field of study?

1. Very positive b. somewhat positive c. neutral d. somewhat negative e. very negative

Finally, expected grade was measured with this question:

What grade do you expect to earn in this class? (circle one)

A+ A A- B+ B B- C+ C C- D+ D D- F

Holcomb, Zealure. Real Data A Statistics Workbook Based on Empirical Data. Los Angeles: Pyrczak Publishing, 1997: 130- 133.